MIDDLESEX UNIVERSITY

CATALOGUE

OF THE

COLLEGE OF ARTS AND SCIENCES

1942-1943

WALTHAM MASSACHUSETTS

STATEMENT

This catalogue, published well in advance of the school year to which it applies, contains a condensed record of the faculty of the College of Arts and Sciences, and of the courses of instruction; and announcements relative to the calendar, requirements for admission and graduation, fees, examinations, and rules for student conduct. It also contains information concerning the two-year course, offered by the Junior College.

The provisions of this catalogue are not intended to be taken as a basis for the contractual relationship arising between the University and its students. The purpose of the Officers and Trustees is continuously to improve the methods and standards of instruction, and they reserve to themselves the right and responsibility of altering at any time the curriculum, requirements, teaching personnel, fees, and rules, as circumstances may require, or as they may deem to be to the best interest of the University.

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Catalogue of the

College of Arts and Sciences

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College Calendar

1942

July 1	Wednesday	Summer session begins.
Sept. 10	Thursday	Summer sessions ends.
Sept. 14 to 19	Monday to Saturday	First installment of tuition due.
Sept. 21 to 26	Monday to Saturday	Examinations for the removal of conditions.
Sept. 24	Thursday	Fall Session opens. Registration.
Oct. 12	Monday	Columbus Day. A holiday.
Nov. 11	Wednesday	Armistice Day. A holiday.
Nov. 25 to 28	Wednesday to Saturday	Thanksgiving Recess.
Dec. 21 to 26	Monday to Saturday	Second installment of tuition due.
Dec. 21	Monday	Christmas vacation begins.

1943

Jan. 4	Monday	Classes resumed.
Feb. 8	Monday	Second Semester begins.
Feb. 22	Monday	Washington's Birthday. A holiday.
Mar. 22 to 27	Monday to Saturday	Third installment of tuition due.
April 19	Monday	Patriots' Day. A holiday.
May 29	Saturday	Second Semester ends.

Changes in the calendar, resulting in the elimination of vacation periods, may be announced, in the interest of national defense.

The Trustees of Middlesex University

C. Ruggles Smith, *President*	Waltham
Frank L. Whipple, *First Vice President*	Lynn
John M. Russell, *Second Vice President*	Watertown
Alton L. Miller, *Treasurer*	Brookline
Horatio S. Card, *Secretary*	Boston
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Howard Charles Gale	Beverly
Hugh Wallace Smith	Melrose
Arthur A. Hansen	Waltham
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Harry R. Bolan	Cambridge
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Joseph F. O'Connell	Boston
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Officers of Administration

President
C. Ruggles Smith, A.B., A.M., Litt.B., LL.B.

Dean
Joseph I. Cheskis, Ph.D.

Assistant Dean
William Northrop Morse, A.M.

Registrar
Harold M. Kaplan, Ph.D.

Counsel
John M. Russell, A.B., LL.B.

Director of Buildings and Campus
John Hall Smith, M.D.

Assistant Treasurer and Bursar
Marjorie K. Faxon

Librarian
Dorothy McLaughlin

Secretary to the Dean
Annette Blais

Director of Dormitories
Thomas J. Smith

Faculty of The College

C. Ruggles Smith, *President* . . *English*
A.B., LL.B., Harvard University;
A.M., Litt.B,, Columbia University

Joseph I. Cheskis, *Dean* . . *Modern Languages*
A.B., University of Paris; A.M., Ph.D., Harvard University

William Northrop Morse, *Assistant Dean* *English*
A.B., Amherst College; A.M., Harvard University

Solomon H. Gordon . . . *Chemistry*
B.S., Massachusetts State College; Ed.M., Boston University

Harold M. Kaplan . . . *Biology*
A.B., Dartmouth College; A.M., Ph.D., Harvard University

David Lyman Davidson . . *Chemistry*
B.S., M.S., Ph.D., Brown University

Stella Sutherland . . . *English, History*
A.B., Queen's University; A.M., University of Chicago;
Ph.D., University of Illinois.

Louis Bergmann . . . . *Biology*
M.D., University of Berlin

Hans Elias . . . . . *Biology*
Ph.D., University of Giessen

J. Richard Weissenberg . . *Biology*
M.D., University of Berlin

Florence S. Alexander . . . *Modern Languages*
A.B., Brooklyn College; A.M., University of Michigan

Bernhard W. Sakmann . . *Physics, Mathematics*
Ph.D., Massachusetts Institute of Technology

Albert Alan Rogers . . .*History, Economics, Sociology*
B.A., University of Richmond;
B.S. Ed., M.A., Ph.D., University of Virginia

Albin Goldschmied . . . *Philosophy, Psychology*
Ph.D., University of Prague

Rosa Kubin . . . . . *Chemistry*
Ph.D., University of Vienna

I. Jacques Yetwin . . . *Biology*
B.S., Rutgers University; M.S., University of Chicago;
M.D., Middlesex University

Lawrence F. Broderick . . *Animal Husbandry*
B.S., Massachusetts State College

Wesley C. Holmes . . . *Aeronautics*

History

THE history of Middlesex University may be traced on the statute books of the Commonwealth of Massachusetts. The first of its component schools was chartered in 1849, and its development into a University was made possible by a series of legislative acts and charters in 1850, 1851, 1917, 1935, and 1937. It is empowered to confer degrees in Arts, Sciences, Medicine, and Veterinary Medicine.

The charter of Middlesex University authorizes its Board of Trustees to receive and hold real or personal estate by gift, grant, devise, bequest, or otherwise, to an amount not to exceed five million dollars, and provides that the clear income of the institution shall be applied to the endowment of the University in such manner as most effectually to promote its general educational purposes.

Middlesex University has achieved a high reputation for its freedom from bigotry and intolerance, and from racial or religious discrimination. The perpetuation of this policy is assured by the terms of its charter, which provides that "No officer or instructor in said University shall ever be required by the trustees to profess any particular religious opinion as a test of office, and no student shall be refused admission to or denied any of the privileges, honors, or degrees of said college on account of the religious opinions he may entertain".

Grounds and Buildings

The hundred acre campus of Middlesex University, situated on wooded heights in the outskirts of Waltham, commands a view of the valley of the Charles River as it winds its course to Boston ten miles away. The rugged battlements of the Norman-Gothic group of University buildings, erected during the past ten years, rise from a high ledge of rock, and the silhouette of their towers and parapets presents the aspect of a medieval castle. The administrative offices and library of the University, the dormitories, the classrooms and laboratories of the College, the School of Medicine, and the School of Veterinary Medicine, and the extensive facilities of the department of Animal Husbandry, are situated on the Waltham campus.

The laboratories of the University occupy five buildings on the Waltham campus. They are spacious and unusually well lighted, and are supplied with gas, water, electricity, and refrigeration. There are smaller rooms for special work, apparatus rooms, and departmental offices. Several laboratories are equipped with paraffin ovens, incubators, microtomes, and a full line of glassware, chemicals, and other accessories. There are available a dark room and photographic equipment with microprojection lanterns, motion picture projectors, and photomicrographic apparatus. Anatomical specimens, including complete sets of bones and mounted skeletons of various animals, are assembled and available for study in the zoölogical courses. Separate and completely equipped laboratories are maintained for instruction in the College courses in chemistry, physics, and biology.

The Arts and Sciences building is on the Waltham campus, and the College shares with other departments of the University the use of the Students' Building, containing over 500 lockers and a spacious smoking room, and the Administration Building, in which the records and files of the entire student body and alumni are kept.

The Library of the College is conveniently situated on the second floor of the College building. It contains about 4000 volumes, including a large number of standard modern text-books, the modern language classics and books of reference. Substantial additions to the Library are being made annually. These volumes are fully catalogued, and a trained librarian is in charge at all

times. Students also have access to the great resources of the Boston Public Library, to the Waltham Public Library, and to the Library of the Medical School.

The Reading Room, a long one-story building which forms the western wall of the quadrangle, contains individual booths for study. It is well supplied with scientific periodicals, as well as with a selection of the better general magazines and newspapers.

One large class-room, on the fifth floor of the South-East Tower, is reserved for visual education, and is used for the exhibition of scientific motion pictures, lectures illustrated by stereopticon slides, and the study of histological and pathological specimens by microprojection.

The University property includes a large agricultural development, with a model dairy, barns, stables, a piggery, silos, kennels, and poultry yards. The farm is well stocked, and the department of animal husbandry maintains forty head of registered cattle, farm and riding horses, swine, sheep, goats, hens, ducks, and a comprehensive selection of all the smaller domestic and laboratory animals.

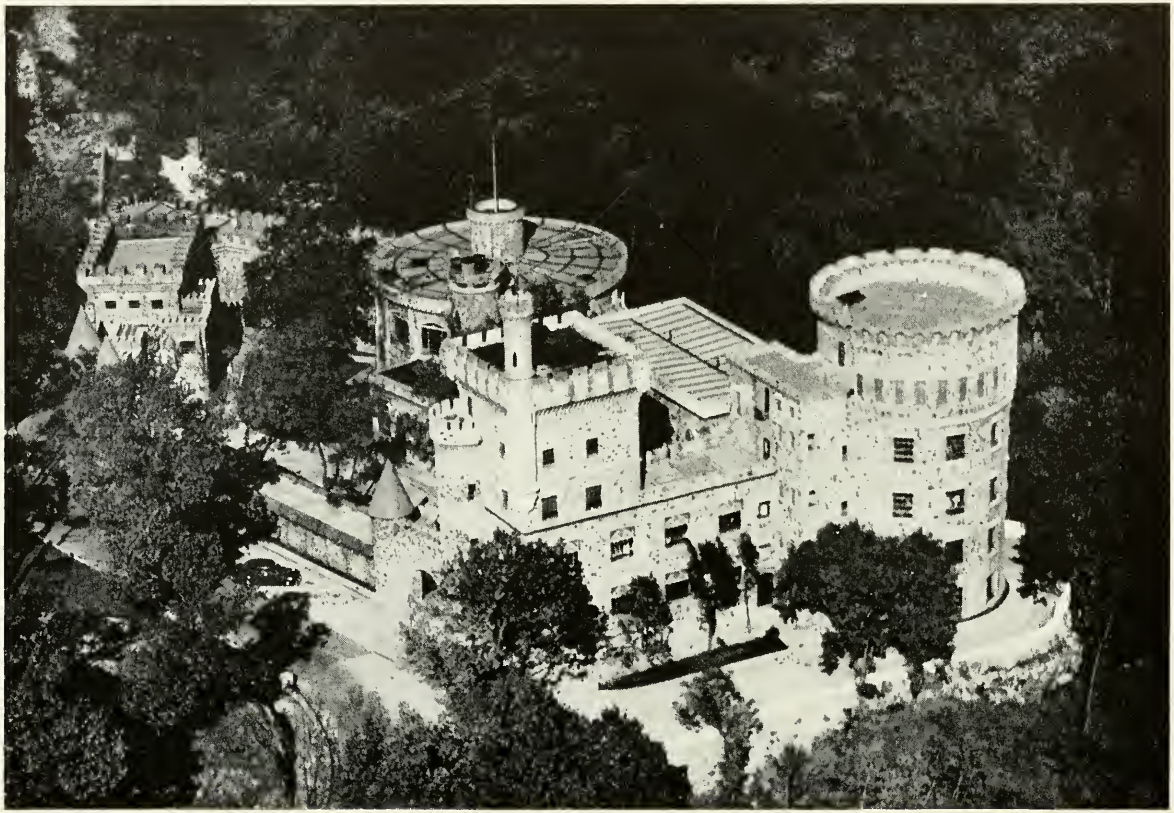
The Department of Conservation, Division of Fisheries and Game, of Massachusetts has issued to Middlesex University a license to maintain wild animals and game birds, and there is now being established a zoo and an aviary on the campus.

The Back Bay Building of the University, located at 415 Newbury Street, in the heart of the professional district of up-town Boston, contains an auditorium, large enough to accommodate the student body of the University, and a spacious gymnasium with a basketball floor and an indoor running track.

Student Accommodations

The first student housing unit on the Middlesex University campus, a group of ten colonial bungalows, was completed in 1940. Each student cottage contains four rooms and a bath with shower, and accommodates four students. There are two single bedrooms, one double bedroom, and a study or living room for the joint use of the four occupants.

The bungalows are Cape Cod colonial in design and embody the most modern methods of construction. They are heated by automatic gas furnaces of the latest type. The dormitory group is



Aerial View of Middlesex University

Middlesex Reaches to the Sky

The Watch Tower on the Administration Building on Middlesex University's hill-top campus is the loftiest structure in Waltham. To the right are laboratories and the five-story class-room building.

conveniently located on the campus within a few minutes' walk of the college buildings. The ten bungalows are grouped about a rectangular lawn, transversed by a paved road which leads into the campus from Route 20, the Post Road from Boston to New York.

College students may secure rooms in the dormitories for $150 per student for the school year of 36 weeks. The rental is payable in three installments of $50 each on the date set for the payment of the tuition. Since the number of dormitory rooms available is limited, applications from individual students, from those who wish to be roommates, or from groups of four who want to share a cottage, should be filed as early as possible. In order for a room to be reserved the application must be accompanied by an advanced payment of $25, which is refundable only at the discretion of the University.

The University provides the necessary furniture, heat, hot water, electricity, and maid service for the dormitories. Student occupants have to provide themselves with sheets, pillow cases, blankets, linen, towels, and any furnishings in the way of decorations and rugs. In order that the appearance of the cottages may be uniform the University will provide curtains at cost for each student room.

For the convenience of students who are unable to secure accommodations in the University dormitories, a list of approved rooming houses within walking distance of the campus is maintained. Room and board may be secured with private families at an average weekly cost of $11, and there are a number of conveniently located restaurants.

There are over 100 parking spaces on the campus for students who travel by automobile. Those who come to the University from other states must obey the Massachusetts law that prescribes that non-resident motorists who keep their cars in the state for more than 30 days must conform with the local requirements that all automobiles be covered by liability insurance.

Scholarship, Student-Aid and Awards

Middlesex University has no scholarship endowment, but individual gifts often make available a limited number of scholarships covering in full or in part tuition in any department of the University. Applicants for these scholarships must have very high scholastic standing and must be in actual need of financial assist-

ance. Continuance of the scholarship from one year to another depends upon the recipient's moral, social, and scholastic qualifications. All scholarship applicants must have a personal interview with the President and with the Dean of the respective School.

There are also available a limited number of service scholarships covering the cost of tuition. Recipients of these scholarships must have proper qualifications to serve as laboratory assistants or otherwise.

Middlesex University has participated for several years in the federal student work program of the National Youth Administration. The purpose of this program is to provide employment of a socially useful nature for students who would otherwise be financially unable to continue their education. Students appointed to these positions are assigned to work under the supervision of various faculty members and are paid from $10.00 to $20.00 a month by the National Youth Administration. Middlesex University had a quota of 29 federal student work positions during the school year 1941-1942.

Civilian Pilot Training Scholarships

Middlesex University has already participated in four of the Civilian Pilot Training programs sponsored in American colleges by the Civil Aeronautics Authority. Since quotas for this program depend upon Congressional appropriations, no definite prediction can be made in advance as to the number of trainees any college will be alloted during any future period. Up to the present time the University has been assigned four quotas totaling forty-five trainees.

The Civilian Pilot Training course includes seventy-two hours of ground school instruction and thirty-five hours of actual flight training, sufficient to qualify a trainee for a private pilot's license. The ground school is conducted at the University and the flying instruction given at one of the airports in Metropolitan Boston. The entire course is given under the supervision of the Civil Aeronautics Authority and practically the total cost of both the ground and flight instruction is borne by the government. In order to qualify for the course a candidate must be able to pass the required physical examination and must have completed at least his freshman year if he is attending the University, or at least two years of college work if he is not a regularly enrolled student.

Requirements for Admission

The College of Arts and Sciences and the Junior College are co-educational. All candidates for admission must have been graduated from a public high school of recognized standing or from an approved preparatory school, and must have successfully completed at least 15 units of secondary school work in subjects which constitute, in the opinion of the Committee on Admissions, a proper preparation for the college course the applicant has chosen. A unit represents one year's work in one major subject at high school, consisting of five hours instruction a week during the school year.

The candidate's high school transcript must show grades acceptable to the Committee on Admissions. Candidates for admission to the premedical course must have attained a B average in the principal college preparatory courses.

The high school course recommended as a proper preparation for admission to the College of Arts and Sciences includes four units of English, two units of Algebra, one unit of Geometry, two units of Latin, two units of French or German, two units of History, and one unit each of Physics, Chemistry, and Biology. These high school subjects are recommended rather than required, and students who have been graduated with an equivalent number of units differently distributed will be admitted if their general selection of subjects and other scholastic standing is satisfactory.

Candidates for admission to the preveterinary course may present a limited number of agricultural credits in place of the usual college preparatory subjects.

Applicants who have attended one or more years of instruction in a college of approved academic grade may be admitted to advanced standing and receive credit for courses completed. In all cases, however, a candidate for a degree must complete his final year of college work at Middlesex University.

Applicants of mature age may be admitted as special students without satisfying the general entrance requirements of the respective schools, provided they give evidence of adequate preparation for the course elected. Special students, however, will not be accepted as candidates for any degree conferred by the University.

For the duration of the war freshmen will be enrolled at both the beginning of the ten-week summer session in July and the beginning of the fall semester in September. By attending summer sessions a student may complete the requirements for gradua-

tion in three calendar years, including three regular and three summer sessions.

Admission blanks may be obtained from the Registrar, Box 310, Waltham, and should be filed accompanied by a verification fee of ten dollars and by a personal unmounted photograph, not less than 2½ by 3 inches in size. Applicants may arrange for a personal interview at the Waltham Campus, or at the Back Bay Building, 415 Newbury Street, Boston. In the case of candidates who come from outside of Massachusetts, a personal interview may be deferred until the opening week of the school year.

The Committee on Admissions reserves the right to refuse admission to any applicant without stating any reason for its action. Credentials and photographs which are filed by candidates for admission become the property of the university, and are kept permanently in the files.

Discipline and Dismissal

The University reserves the right to dismiss at any time a student whose deportment or scholarship is unsatisfactory, and to refund a proportional part of the current tuition fee he has paid. Admission to the University is in all cases for one year only, and readmission may be denied without explanation.

Examinations and Promotion

A student will not be admitted to the final examinations in any course unless his class record, attendance, and laboratory work in that subject are satisfactory, and all of these elements will be considered in the determination of his final grade. Passing grades include A, B, C, and D; a conditional failure is indicated by an E, and a complete failure by an F.

A student will not be allowed the privilege of final examinations, or be given his final grades in any course, until he has satisfied all of his financial obligations to the University.

The Committee on Promotion, consisting of Administrative Officers and members of the College Faculty, review the work of the student at the end of each year of the course. It is within the province of the Committee on Promotion to decide whether a student shall be promoted to the next class, shall be permitted to take further instruction in the Summer Session and examinations for the removal of conditions in September, shall be required to repeat the year's work, or shall be denied further registration in the College by reason of unsatisfactory scholarship.

The mere attainment of passing grades does not insure promotion. The continuance in good standing of any student is also contingent upon his faithful adherence to the rules and regulations of the University, as well as his observance in extra-curricular activities of a high moral standard.

Any student who voluntarily withdraws from the College for proper reasons forfeits his standing, but may apply for re-admission in a subsequent year. If not too long a time has elapsed, and if changes in the rules of promotion or in the curriculum do not render such an admission impractical, his application should receive favorable consideration.

Fees and Expenses

Fees are payable only by postal money order, certified check, express money order, and telegraph order. Remittances must be made by mail, and addressed to Middlesex University, Box 310, Waltham, Massachusetts.

The verification fee of ten dollars is payable by all new students and should accompany the filing of the application blank. This fee is not refundable under any circumstances, since each application involves secretarial work and receives the careful attention of the administrative staff. The verification fee is payable only once, and may be credited to the student's account, should he withdraw his application and then re-apply in a subsequent year.

The matriculation fee of twenty-five dollars is payable by each candidate for admission or re-admission to the School, when he is notified that his application has been acted upon favorably by the Committee on Admissions. No place will be reserved in a class until the accepted applicant has paid this matriculation fee. This fee is payable annually and is not refundable. This fee is to reserve a place for the matriculant, and does not constitute part of the tuition.

The tuition fee of $200 is charged for each year of instruction in the College. The fee is payable in three installments on the dates indicated on the University Calendar. The first installment is $65, the second $70, and the third $65. The tuition fee includes all laboratory charges except breakage, damage, and loss of apparatus. It is not subject to refund.

The tuition for the ten-week summer course amounts to ten dollars for each semester hour of college credit, or not more than one hundred dollars for the session, and is payable between June 15th and June 20th, 1942.

A locker fee of $1.00 is payable with the first installment of the tuition. Seventy-five cents is returnable upon surrender of the key at the end of the term.

Any student whose installment of indebtedness to the School remains unpaid on the date fixed for final payment is deprived of the privileges of the School until he is reinstated. Reinstatement is obtained only by consent of the Board of Trustees, after payment of all indebtedness and a reinstatement fee of ten dollars. This charge of ten dollars is also payable, in the form of a late registration fee, by all students who may be permitted to enroll in the School after the date set for payment of the first installment of the tuition.

The graduation fee of twenty-five dollars is payable by all successful candidates for the degree of Bachelor of Arts or Bachelor of Science, upon notification by the Bursar.

An examination fee of five dollars is charged for the first reexamination in any subject failed. Any subsequent or special examination, except in the case of illness, is subject to a charge of ten dollars.

A student may obtain one transcript of his scholastic record without charge. A clerical fee of one dollar is required for all additional transcripts.

Students required to withdraw from school by operation of the Selective Service Law will be granted a refund for any unearned tuition and a leave of absence until such time as they are able to return to school. No student who enlists or is drafted for military service will forfeit his standing.

Medical Attendance

A medical adviser with offices in Waltham in the vicinity of the campus will be available for consultation by students. He may also be seen by appointment at the Administrative Office. A routine medical examination of each member of the entering class will be made at the beginning of the academic year.

Any illness necessitating absence from class must be reported to the medical adviser. Attendance during all class and laboratory exercises is required. Students who are absent, for any considerable time, on account of illness or for other unavoidable reason, must present medical certificates or other satisfactory evidence in justification of their absence.

Requirements for Graduation

Each candidate for the degree of Bachelor of Science or Bachelor of Arts must have fulfilled the following requirements:

1. He must be of good moral character.
2. He must have satisfactorily completed not less than 122 semester hours of instruction, with grades of C or better in at least 90 semester hours.
3. If he has been admitted to advanced standing from some other college he must have completed the last year at Middlesex University.
4. He must have furnished a personal photograph and his signature for identification.
5. He must have satisfied all indebtedness to the University, including the graduation fee of $25.00.

Courses of Instruction

Curriculum in the Arts

Candidates for a degree in Arts should follow a curriculum that includes a thorough grounding in languages, literature, history, and the social sciences.

Degree: Bachelor of Arts

Students may have a choice of the following curricula after conferences with the Dean of the College of Arts and Sciences or with designated heads of various departments.

Curriculum in Languages and Literature

Curriculum in History and Political Sciences

Curriculum in Economics

Curriculum in the Social Sciences

The Biological Curriculum

The following curriculum is designed to accomplish two things: to give the student a grasp of the basic concepts of biology and a working knowledge of scientific methods with their application to biological problems. This constitutes an exceptionally broad training for the student who wishes to enter the field of the medical sciences. It also equips him to enter upon graduate studies to utilize his training in the teaching of biology in the secondary schools.

Degree: Bachelor of Science

First Year

Subject	*Semester Hours*
Biology 101-102 (Botany and Zoölogy)	8
Chemistry 101-102 (General Inorganic)	8
Mathematics 101-102 (College Algebra and Plane Trigonometry)	4
English 101-102 (Composition, Rhetoric, and Public Speaking)	6
Modern Language 101-102 (Elementary French, German, or Spanish)	6

Second Year

Subject	*Semester Hours*
Biology 201-202 (Comparative Vertebrate Anatomy)	8
Physics 101-102 (General Physics)	8
English 103-104 (English Literature)	6
or	
English 201-202 (American Literature)	6
Modern Language 201-202 (Advanced French, German, or Spanish)	6
History 101-102 (European History)	4
or	
History 201-202 (American History)	4

Third Year

Subject	*Semester Hours*
Biology 301-302 (Comparative Vertebrate Embryology and Animal Micrology)	8
Chemistry 201-202 (Organic)	8
Chemistry 301 (Qualitative Analysis)	4

English 303-304 (English Novel) 6
or
English 401-402 (American Novel) 4
Psychology 101-102 (General Psychology) 6
or
Government 101-102 (American Government) . . 4

Fourth Year

Subject	*Semester Hours*
Biology 401-402 (Medical Histology)	8
or	
Biology 405-406 (Medical Physiology) . . .	8
Biology 403 (Genetics)	4
Chemistry 303 (Physical)	4
History 301-302 (Ancient and Medieval) . . .	6
or	
History 401-402 (English and Latin American) . .	6
Government 201 (European and Latin America) . .	6
or	
Economics 101-102 (Principles of Economics) . .	6
or	
Sociology 101-102 (Introduction to Sociology) . .	6

Curriculum in Chemistry

A student who pursues through the four years the curriculum in chemistry is qualified on graduation to enter positions open to chemists in factories or technical and analytical laboratories or to undertake advanced study and research in chemistry.

Degree: Bachelor of Science

First Year

Subject	*Semester Hours*
Biology 101-102 (Botany and Zoölogy) . . .	8
Chemistry 101-102 (General Inorganic) . . .	8
Mathematics 101-102 (College Algebra and Plane Trigonometry)	4
English 101-102 (Composition, Rhetoric, and Public Speaking)	6
Modern Language 101-102 (Elementary French, German, or Spanish)	6

Second Year

Subject	*Semester Hours*
Chemistry 201-202 (General Organic)	8
Physics 101-102 (General Physics)	8
Mathematics 201-2-3-4 (Analytical Geometry and Calculus)	8
English 103-104 (English Literature)	6
or	
English 201-202 (American Literature)	6
Modern Language 201-202 (Advanced French, German, or Spanish)	6

Third Year

Subject	*Semester Hours*
Chemistry 301-302 (Qualitative and Quantitative Analysis)	8
Chemistry 303 (Physical)	4
Geology 101-102 (Elementary Geology)	6
English 303-304 (English Novel)	6
or	
English 401-402 (American Novel)	4
History 101-102 (European)	4
or	
History 201-202 (American)	4
Psychology 101-102 (General Psychology)	6
or	
Government 101-102 (American Government)	4

Fourth Year

Subject	*Semester Hours*
Chemistry 305 (Organic Quantitative Analysis)	4
Chemistry 401-402 (Biochemistry)	8
Chemistry 403 (Industrial)	8
History 301-302 (Ancient and Medieval)	6
or	
History 401-402 (English and Latin American)	6
Government 201, Economics 101-102, Philosophy 201-202 *or* Sociology 101-102	6

Purpose of The Junior College

The Junior College offers two years of academic instruction of college grade to properly qualified students who have satisfactorily completed their secondary school education.

Instruction in the various departments is designed to fulfill the needs of students who wish to prepare for admission to professional schools requiring one or two years of college work; and to provide a liberal education in the arts and sciences for those who have not the opportunity to complete the four years of study required for a college degree.

Full credit for work completed in the Junior College is granted to students who enroll in the College of Arts and Sciences as candidates for the degree of Bachelor of Arts or Bachelor of Science.

Middlesex University Junior College is a member of the New England Junior College Council and of the American Association of Junior Colleges.

The Preveterinary Course

The Junior College offers a two-year preveterinary course designed to fulfill the requirements for admission to the School of Veterinary Medicine, and the University reserves a place in the first-year class of the School of Veterinary Medicine for all applicants who successfully complete the preveterinary course in Middlesex College.

The two-year preveterinary course covers sixty-four semester hours, and includes the following subjects:—

First Year

Subject	*Semester Hours*
Chemistry 101-102 (General Inorganic)	8
English 101-102 (Composition, Rhetoric, and Public Speaking)	6
Modern Language 101-102 (French, German or Spanish)	6
Mathematics, History, or Economics 101-102	4
Biology 101-102 (Botany and Zoölogy)	8

Second Year

Subject	*Semester Hours*
Biology 201-202 (Comparative Vertebrate Anatomy)	8
Physics101-102 *or* Chemistry 201-202	8
Modern Language 201-202 (Advanced French, German, or Spanish)	6
English 103-104 *or* 201-202	6
Animal Husbandry 101-102 (Introduction to Animal Husbandry)	4

During the present emergency it may be possible for candidates to complete the preveterinary requirement within a period of twelve months, and to enter the School of Veterinary Medicine with credit for not less than forty-five semester hours of college work.

The Seven-Year Combined College and Veterinary Course

The College of Arts and Sciences, in conjunction with the School of Veterinary Medicine, offers a seven-year course leading to the degrees of Bachelor of Science and Doctor of Veterinary Medicine. The first three years are spent in the College and devoted to preveterinary and cultural study, and the degree of Bachelor of Science is conferred upon the subsequent completion of the first year in the School of Veterinary Medicine.

The three-year preveterinary course includes the following subjects:

First Year

Subject	*Semester Hours*
English	6
Chemistry	8
Biology	8
Modern Language	6
Mathematics	4

Second Year

Subject	*Semester Hours*
English	6
Physics	8
Modern Language	6
Biology	8
Animal Husbandry	4

Third Year

Subject	*Semester Hours*
English	6
Animal Husbandry	6
Chemistry	8
Psychology	6
Social Science	6

Description of Courses

AERONAUTICS

201-2. Elements of Aviation.

This course gives the ground school instruction required in the Civilian Pilot Training Program of the Civil Aeronautics Authority. It includes the history of aviation, civil air regulations, navigation, meteorology, parachutes, aircraft and theory of flight, engines, instruments, and radio uses and forms. Four semester hours.

ANIMAL HUSBANDRY

101-102. Introduction to Animal Husbandry

An introductory course in livestock production, animal feeding, the dairy industry, poultry husbandry, and zoötechnics, designed to prepare the student for the advanced course in the school of veterinary medicine. Four semester hours.

BIOLOGY

101. Botany.

A general course in elementary botany, including a survey of the plant types, and treating the morphology, physiology, and ecological relationships of the various members of the plant kingdom. Two lectures and two laboratory periods each week, four semester hours, first semester.

102. Zoölogy.

An elementary course in general zoölogy, arranged to illustrate the relationships existing among animals. There are included a general survey of animal types, and complete life history studies of certain important forms. Attention is given to the problems of development, genetics and evolution. Two lectures and two laboratory periods each week, four semester hours, second semester.

201-2. Comparative Vertebrate Anatomy.

Completion of Biology 102 or its equivalent is required for admission to this course. It involves a detailed study of the systems and organs in vertebrates, their functions and evolution. There

are studied by laboratory dissection, Amphioxus, the dogfish, Necturus, the turtle, and particularly the cat. There are frequent demonstrations, and opportunity for the student to learn injection and embalming methods for animals. Two lectures and two three-hour laboratory periods weekly, eight semester hours.

301. Comparative Vertebrate Embryology.

An introduction to the general embryology of the vertebrates. The germ cells and their development, fertilization, cleavage, the formation of the germ layers, the development of the primitive organs and of the fetal membranes are discussed in lectures and studied in the laboratory in microscopic preparations. The slides are preparations of eggs and embryos of fish, amphibia, birds and mammals. The studies of fertilization and cleavage also include invertebrate material. The course touches problems of experimental embryology and heredity. To the future student of medicine and veterinary medicine this course gives the basis for the understanding of the complicated and often abbreviated developmental processes of man and mammals. Two lectures and two laboratory periods weekly, four semester hours.

302. Animal Micrology.

A laboratory and lecture course designed to familiarize the student with technics employed in the preparation of histological materials. Four semester hours.

401-2. Medical Histology.

A course in microscopic anatomy dealing with the elementary structure and physiological function of cells, tissues, and organs of the body. This course includes extensive laboratory work, and is given by the faculty of medicine. It may be elected only by advanced students in the College of Arts and Sciences. Four lectures and four laboratory periods weekly for the first semester, eight semester hours.

403. Genetics.

The principles and problems of the science of genetics are studied in the laboratory with the fruit fly, *Drosophila melanogaster*. The practical applications of eugenics and breeding are discussed. Four semester hours.

405-406. Medical Physiology.

A course in general physiology dealing with the vertebrate body. This course includes extensive laboratory work and is given by

the faculty of medicine. It may be elected only by advanced students in the college of Arts and Sciences. Four lecture and four laboratory periods for the second semester, eight semester hours.

CHEMISTRY

101–2. General Inorganic Chemistry.

An introductory course dealing with the elements, their compounds, and the fundamental laws and theories of chemistry. This course includes laboratory work, covers eight semester hours, and is required of premedical and preveterinary students.

201-2. General Organic Chemistry.

Completion of Chemistry 101–2 or its equivalent is required for admission to this course, which includes a study of the carbon compounds, of both aliphatic and aromatic derivatives, and is required of all premedical students. The instruction includes laboratory work, and covers eight semester hours.

301. Qualitative Analysis.

The course includes laboratory work in the detection and separation of the common acids and bases. The prerequisite is Chemistry 101–2, and the course covers four semester hours.

302. Quantitative Analysis.

A study of the gravimetric and volumetric determination of the common elements and radicals. Chemistry 101-2 and 301 are prerequisites, and four semester hours are covered.

303. Physical Chemistry.

Properties of gases, liquids, solids, solutions, electrolytes and colloids; first and second law of thermodynamics, thermochemistry and chemical equilibrium. Two lectures and two laboratory periods during one semester, four semester hours.

305. Organic Quantitative Analysis.

A study of the gravimetric and volumetric determination of the carbon compounds, of both aliphatic and aromatic derivatives. Four semester hours.

401-2. Biochemistry.

A study of the chemical substances and reactions involved in the physiological processes of animals and plants. This course is given by the medical faculty and is open to advanced students in the academic department. Four lectures and four laboratory periods during one semester, eight semester hours.

403. Industrial Chemistry.

A study of the usual technics, methods, and principles employed in the fields of industry and in various analytical laboratories. Extensive laboratory and lecture work is included. Eight semester hours.

ECONOMICS

101-2. Principles of Economics.

A general introductory course dealing with the principles of production, exchange, distribution, and consumption, and with the application of these fundamental concepts to present economic problems. Six semester hours.

201-2. American Economic History.

A study of the historical background of economic forces and movements from colonial times to the present, with particular attention given to the special problems of agriculture, commerce, and industry. Six semester hours.

301. Economic History of Europe.

A survey of European economic history with emphasis upon the development of economic organization and public policy. First semester, three semester hours.

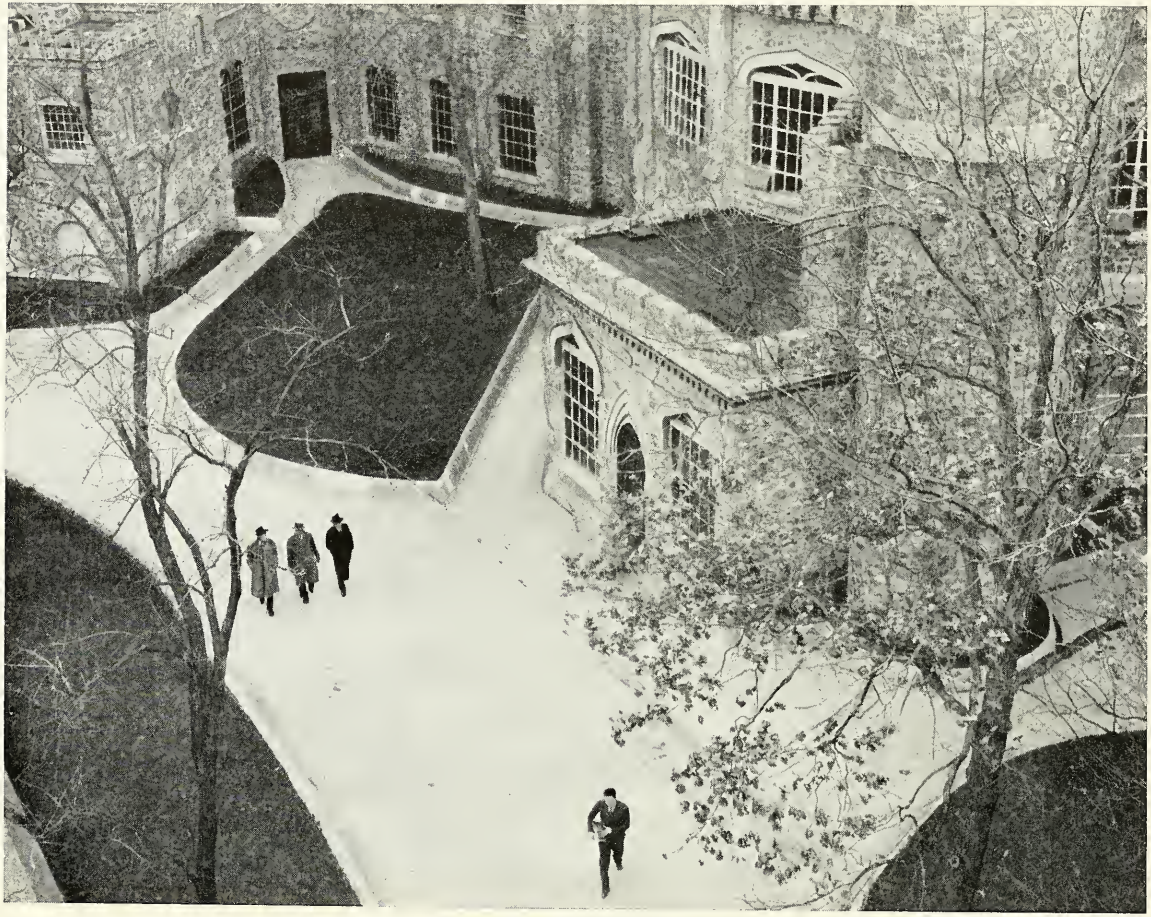
302. Labor Problems.

This course considers the problems of labor with reference to the labor movement in this and other countries. Second semester, three semester hours.

ENGLISH

101. Composition and Rhetoric.

A course in writing. Grammatical accuracy, excellence of organization, and clarity in the presentation of ideas are stressed. The work includes short expository papers and at least one



The Quadrangle

Interior View of the Reading Room

research paper of some length, as well as feature stories and business letters. Four semester hours.

102. Public Speaking.

A course in the basic principles of oral composition designed to enable each pupil to express his thoughts clearly and effectively in public. Two semester hours.

103–4. History of English Literature.

A general survey of English Literature from the early days to the twentieth century. A basic course designed to acquaint the pupil with examples of the works of the great English writers. Six semester hours.

201–2. American Literature.

A survey course in which the social, political, and economic influences affecting literary expression in the United States are traced. It includes an account of the growth of types of literature, such as essays, poetry, short stories, and novels, and attempts to interpret the work of the major literary figures of the last 250 years. Six semester hours.

203. Modern Drama.

This course surveys the development of Modern Dramatic Literature in England and America, and includes a consideration of the principles of dramatic criticism. Assigned work covers the reading of many plays and the writing of reviews. Four semester hours.

301–2. Dramatics.

A study of the principles of play production. Theory of acting, stage design, costume, directing, studied and applied through the production of plays, under supervision of faculty director, in association with the dramatics club of Middlesex University. Six semester hours.

303–4. The English Novel.

The development of English fiction, together with a study of a typical novel by such authors as DeFoe, Sterne, Scott, Dickens, Thackeray, Eliot, Hardy, Meredith, Conrad, Bennett, Galsworthy, and Wells. Six semester hours.

305–6. Journalism.

This course includes instruction and practice in the reporting and writing of news, the fundamentals of copy editing, headline writing, and newspaper make-up, and a study of the methods employed in the leading metropolitan papers and press services. Practical work is given in the gathering of news material, and the preparation of stories for publication. Six semester hours.

401–2. The American Novel.

An analytical survey of the most characteristic form of American literature, with a study of the principal works of Cooper, Hawthorne, Melville, Mark Twain, Henry James, Churchill, Dreiser, Tarkington, Lewis, Cather, Dos Passos, and Hemingway. Four semester hours.

403–4. British Poetry.

Development of English poetry from the eighteenth to the twentieth century. Careful consideration of the lives and works of the great poets of England, Scotland, and Ireland, from Robert Burns to Rupert Brooke. Four semester hours.

405–6. Playwriting.

A course in the elements of writing plays. Promising scripts will be given a chance for production by the dramatics club. Six semester hours.

FRENCH

101–2. Elementary French.

This course is designed for those who have not passed college entrance examinations in French. It covers the principles of French Grammar, practice in reading, speaking, and writing French. Six semester hours.

103–4. Intermediate French.

This course presupposes two years of High School French or the equivalent of Elementary French, and includes a review of grammar, training in composition and speech, and the reading of prose and drama. Six semester hours.

201–2. Advanced French.

This course is open to those who have had one or more years of French in college, and includes oral and written composition, the

reading of scientific and classical French works, and extensive use of the language in the class-room. Six semester hours.

301–2. French Literature.

This course presupposes an understanding of the French language, and includes a study of the various periods of French Literature and a consideration of the works of leading classical and modern French authors. The course is largely conducted in French. Four semester hours.

GEOLOGY

101–2. Elementary Geology.

A course consisting of lectures, laboratory work, and field work, relating to the origin, character, and effect of man's physical environment. A study is made of the structure of the earth and the processes of change. Six semester hours.

GERMAN

101–2. Elementary German.

This course covers the fundamentals of grammar, and includes training in translation and composition. Six semester hours.

103–4. Intermediate German.

This course is intended for those who present German as an entrance requirement or who have completed German 101-2. It includes a review of grammar and composition, the reading of German prose, and training in the oral and written use of German. Six semester hours.

201–2. German Literature.

This course is intended for those who have a sufficient knowledge of the German language to enable them to read and appreciate modern and classical German authors. Four semester hours.

301. Scientific German.

An advanced course in the reading and writing of technical and scientific German. Two semester hours.

GOVERNMENT

101–2. American Government.

A survey of national, state, and local government in the United States. Primary emphasis on background, structure, development,

and functions of each of the levels of government. Four semester hours.

201. European Governments.

A comparative study of the governments of the principal countries of Europe, with special attention given to points of strength and weakness claimed for the several forms of government in dealing with world problems. First semester, three semester hours.

202. Latin America and the United States.

A course designed to analyze contemporary problems affecting the United States in its relations with the Latin American countries. Second semester, three semester hours.

301. History of Political Thought.

A general survey from the beginning of Greek political thought to the present, with especial reference to the doctrines of democracy and dictatorship. First semester, three semester hours.

302. Party Politics in the United States.

A descriptive and critical study of the organization, procedure, and functions of political parties. Second semester, three semester hours.

HISTORY

101–2. European History.

A survey of the history of Europe from the fall of the Roman Empire to the present time. Emphasis will be placed on the trends and changes in the political, social, economic, and cultural life of Europe. Four semester hours.

201–2. American History.

A survey covering the development of the United States as a nation and world power, tracing the economic, political, and social growth from the age of discovery and colonization to the entry of the United States into the Second World War. Four semester hours.

301. History of Ancient Cultures.

A general cultural and social history of antiquity; including a study of Egypt, Babylonia, and the Oriental empires; and continuing with major time and emphasis upon the cultures of Greece and Rome. First semester, three semester hours.

302. Renaissance and Reformation.

This course deals with the Renaissance in Italy and in northern Europe; the reformers and reform movements in Europe, England and Scotland; the counter-reformation and the results of the period. Second semester, three semester hours.

401. History of England.

A general survey from the earliest times to the present. First semester, three semester hours.

402. Latin American History.

A survey of the history of Caribbean and South American republics. Second semester, three semester hours.

LATIN

101. Latin Derivatives.

This course is designed to familiarize premedical and preveterinary students with the classical derivatives used in modern medical terminology. One semester hour.

MATHEMATICS

101-2. College Algebra and Plane Trigonometry.

Instruction in algebra, linear and quadratic equations, geometry, trigonometry and use of logarithmic tables. This is a preparatory course for the study of physics or chemistry. Four semester hours.

201–2. Analytic Geometry.

The fundamental properties of conic sections and a brief introduction to the geometry of three dimensions. Four semester hours.

203–4. Calculus.

Differential and integral calculus, and geometrical and physical applications. Four semester hours.

PHILOSOPHY

201–2. Types of Philosophy.

This introduction to philosophy proposes to be the counterpoise to the facts of special sciences offered in such an abundance to students. Instead of an accumulation of the facts of philosophy,

the main world views, leading concepts, and problems are presented. This also makes the student acquainted with some of the leading figures in philosophy. Four semester hours.

301–2. Problems of Ethical Philosophy.

This course deals with the most important ethical ideas and with the principles of right living in individual and social life. Original work will be read, and opportunity provided for discussion. Four semester hours.

303–4. The Development of Philosophical Thought.

The course presupposes the acquaintance with the persistent fundamental ideas of philosophy. It is a survey of representative thinkers of Ancient Times, the Middle Ages and Modern Times, Recent and Contemporary Philosophy, as expressions of permanent philosophical problems. Four semester hours.

PHYSICS

101–2. General Physics.

An introductory course in the elementary principles of mechanics, heat, magnetism, electricity, sound and light. Lectures and laboratory experiments. Eight semester hours.

201–2. Heat, Sound, and Light.

A course open to those who have completed an introductory course in physics. Lectures and laboratory work in those aspects of heat, sound, and light which have some relation to the science of medicine, including geometric and physical optics. Six semester hours.

203–4. Modern Physics.

Open to students who have completed Physics 101–2. A lecture and laboratory course on phenomena, theories, and methods of contemporary physics, including a consideration of alternating currents, electromagnetic waves, thermionics, photo-electricity, ultra-violet radiation, X-rays, radio-activity, geophysics, astrophysics, and relativity. Six semester hours.

PSYCHOLOGY

101-2. General Psychology.

A brief survey of the elements of sensation, perception, imagination, memory, thought, volition, and the affective mental

states; the driving forces of human nature; character, instinct, and habit; experience and behavior; unconscious and subconscious mental states; the abnormal mind. Six semester hours.

201-2. Applied Psychology.

The methods of adjustment utilized by abnormal personalities; a study of the bases of personality types; the determination of the physiological processes accompanying certain types of behavior. The lectures are supplemented by experimental work, demonstrations, and field trips to state institutions. Four semester hours.

SOCIOLOGY

101–2. Introduction to Sociology.

A study of the general principles and fundamental concepts of sociology. The course is designed to give a general view of the field, as well as to serve as a preparation for the more specialized courses. It provides a brief study of the factual material, theories, and problems of the science of sociology. Six semester hours.

201–2. Social Origins.

A general course in anthropology and an introduction to the study of man and culture, including human origins, early man, race, language, economic organization, religion, social life, and invention. Six semester hours.

203. The Family.

An analysis of the family in history and as an institution, to provide an understanding of its origin, structure, and functions; and a study from reliable data of those factors practically helpful in the choice of a marriage partner and the necessary adjustments of marriage and family life. Three semester hours.

301–2. Criminology.

A study of the general causes of crime and the methods of treatment. The background of crime and the society which produces it are examined, and constructive changes and possible programs of crime prevention are discussed. Four semester hours.

SPANISH

101–2. Elementary Spanish.

This course is designed for students with no previous knowledge of Spanish. It covers the elements of Spanish grammar, practice in reading, speaking and writing easy Spanish. Six semester hours.

103–4. Intermediate Spanish.

This course gives a thorough and systematic survey of Spanish grammar. Current spoken idiom is emphasized, and abundant exercise and composition material is provided. Six semester hours. Prerequisite, Spanish 101-2 or its equivalent.

201–2. Advanced Spanish.

This course is open to those who have completed one or more years of college Spanish and includes oral and written composition and the reading of some chosen Spanish classics. Four semester hours.

301–2. Survey of Spanish Literature.

This course is intended to give a general survey of the main trends of Spanish literature, with a special emphasis on the works of Cervantes, Lope de Vega, and Calderon. Four semester hours.

GIFTS AND ENDOWMENT

Middlesex University is authorized by the Massachusetts Legislature to receive and hold donations, legacies, and bequests of real and personal property to an extent not to exceed five million dollars, and to use such property or the income therefrom for its general educational purposes.

The College of Arts and Sciences is now in immediate need of substantial endowment funds. The Trustees will be glad to receive specific gifts of books, equipment, or material for the use of any department of the University; and would be very grateful for any donation to the endowment of the University.

Bequests may be made in the following form:

I give to the Trustees of Middlesex University, an educational institution incorporated under the laws of the Commonwealth of Massachusetts, the sum of.....dollars, to be applied to the general purposes of the University.

Contributions and bequests to the University are deductible for income and estate tax purposes in the manner and to the extent provided by law.

MIDDLESEX UNIVERSITY

JUNIOR COLLEGE
Preprofessional Courses, Arts and Sciences

COLLEGE OF ARTS AND SCIENCES
A.B. and B.S. Degrees

SCHOOL OF MEDICINE
M.D. Degree

SCHOOL OF VETERINARY MEDICINE
D.V.M. Degree

BOSTON and WALTHAM — MASSACHUSETTS